



EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000



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June 10, 1991

TS-136-91

Dear Neighbor,

As you probably know, the cleanup of Rocky Flats has begun. These cleanup activities will require a more detailed knowledge of the geology of the surrounding area. As part of the geologic characterization of the Rocky Flats Plant area, we will use deep seismic data to characterize the geology of Rocky Flats and to identify how the Rocky Flats Plantsite fits into the geologic frame-work of the area.

As part of these activities, you may be contacted by a representative of EG&G seeking access to your property to perform these investigations. Even if you are not contacted, you may notice helicopters or other equipment being used on nearby properties. We hope to be as unobtrusive as possible- surface and other environmental disturbances will be kept to a minimum. The project is scheduled to begin in early to mid-July. Once the field work begins, it should be completed within two weeks.

I have enclosed a fact sheet that explains the deep seismic investigation project in more detail. If you have any questions, please don't hesitate to give me or Michael McHugh of my staff a call. I can be reached at 966-2986; Michael's telephone number is 966-6158. Thank you for your cooperation.

Very truly yours,


Terry A. Smith, Manager
Community Relations

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Enclosure:
As Stated

cc:

| | |
|----------------|---------------------------|
| B. Brainard | DOE, RFO w/o Enc. |
| B.R. Lewis | DOE, RFO w/o Enc. |
| D. P. Simonson | DOE, RFO w/o Enc. |
| M. B. Arndt | EG&G Rocky Flats w/o Enc. |
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Deep Seismic Investigation at Rocky Flats

Cleanup activities at Rocky Flats require detailed knowledge of the geology of the surrounding area. As part of the geologic characterization of the Rocky Flats Plant area, deep seismic data will be used to characterize the geology of Rocky Flats and to identify how the Rocky Flats Plant site fits into the geologic framework of the Front Range.

Several geologic investigations have concentrated on the area immediately around the Rocky Flats Plant. There have also been many investigations of the geology of the foothills and the Front Range. Few, if any, of these studies have attempted to tie the geology of the Front Range with the geology of the Rocky Flats area.

The present seismic survey will let geologists look 12,000 feet beneath the earth's surface. Geologists will be able to identify any faults that may be present in the area around the

Rocky Flats Plant and determine if any of the faults are currently active. The seismic investigation will make it possible to better understand the history of the rocks and structures beneath Rocky Flats. For example, this information will help us to understand the movement of groundwater below Rocky Flats so we can propose remediation methods that are likely to be the most effective.

Although seismic data are most often associated with oil and gas exploration, this survey will be used solely for the purpose of identifying Front Range structure and faulting and relating it to the geology of Rocky Flats. Neither the Department of Energy nor its contractor, EG&G, will use this survey to explore for oil and gas, minerals, or water. The survey area extends beyond the boundaries of the Rocky Flats Plant site so that a better regional geologic picture may be obtained. This does not imply

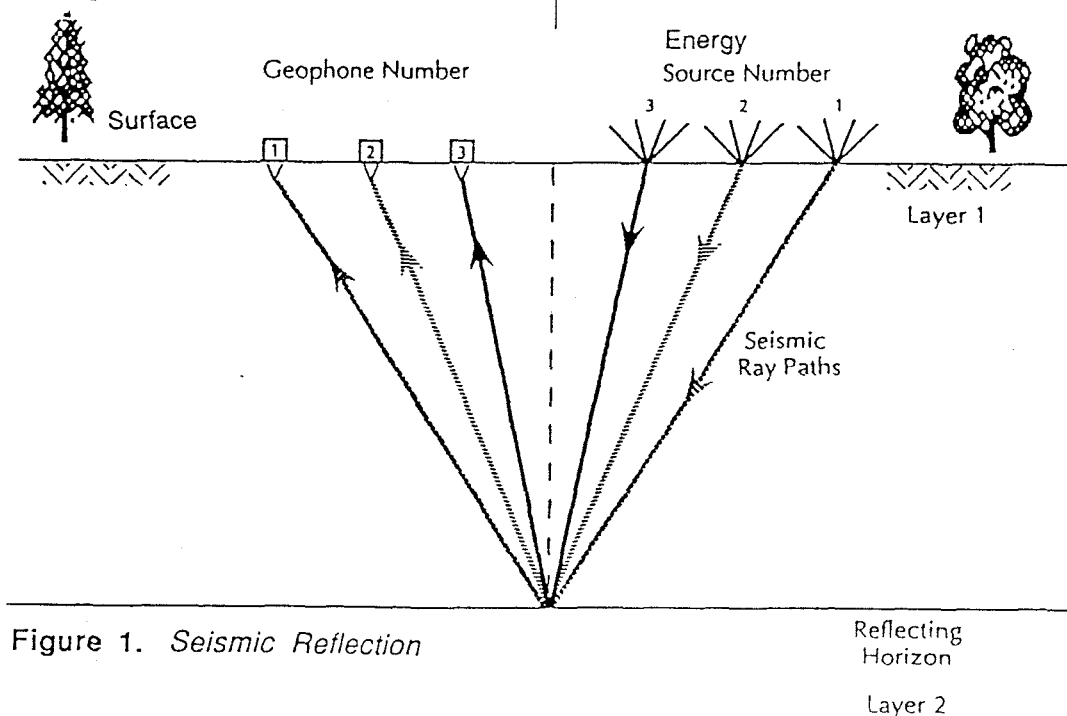


Figure 1. Seismic Reflection

that groundwater contamination exists outside the plant site boundaries.

The seismic survey will be conducted along a line that will start approximately three miles up Coal Creek Canyon, run across the northern half of the Rocky Flats Plant and finish at the western side of Jefferson County Airport along the north side of Great Western Reservoir. It will be about 13 or 14 miles long. Surface and other environmental disturbances along the trace of the line will be minimal.

The seismic reflection technique being used was developed in the early 1920s. Since then, it has been widely used by geologists and geophysicists trying to identify features beneath the earth's surface. The technique itself is fairly simple. Energy, such as that from detonation of a small dynamite charge or from a vibrating truck, is released on the surface of the ground. This energy is released in the form of seismic waves which travel through the earth.

The seismic waves are reflected off rock layers

and structures beneath the earth's surface and picked up by a receiving device called a geophone (see figure 1). The signal is then transmitted to a recording device and is processed by computer. This recording process is very similar to the process that enables us to record movements in the earth caused by an earthquake. A reproduction of the information is shown below (see figure 2).

This survey will use two different energy sources. A vibrating truck will be used in the areas where the topography is relatively flat, and dynamite will be used in areas where the terrain is more rugged. The dynamite source will consist of 10 pound charges set in 50 foot holes drilled 220 feet apart. Because of the rugged terrain in Coal Creek Canyon, the western portion of the survey will require dynamite energy sources, and a helicopter will be used to move equipment.

Field work for the survey, which will begin in early to mid July, will last about two weeks.

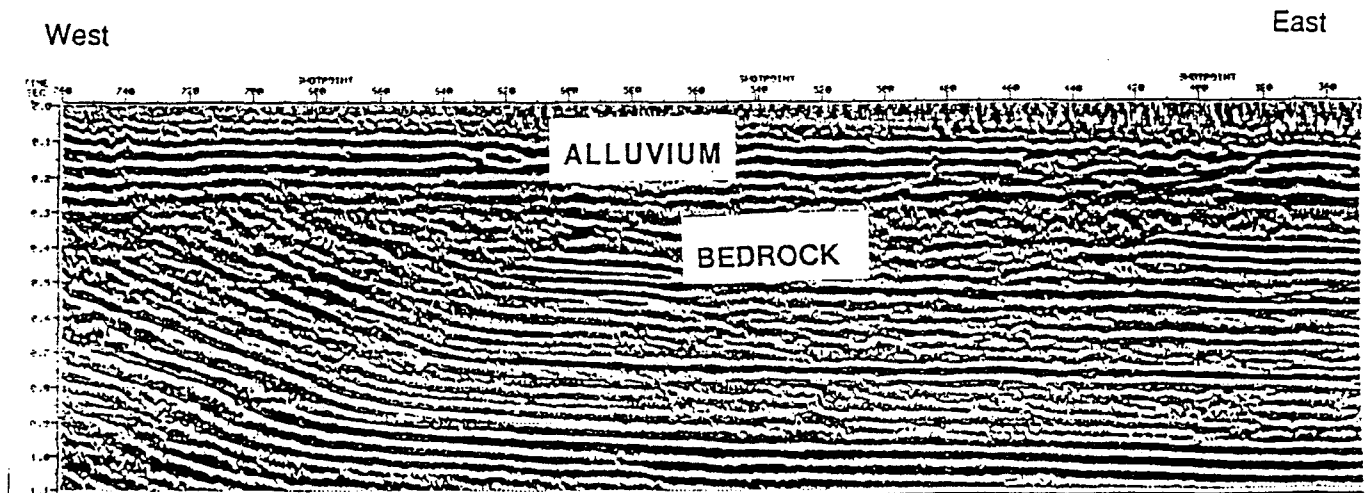


Figure 2. Actual seismic view of the ground beneath a portion of Rocky Flats Plant site known as the west spray fields. The horizontal surface deposits (alluvium) are visible over the sloping bedrock.